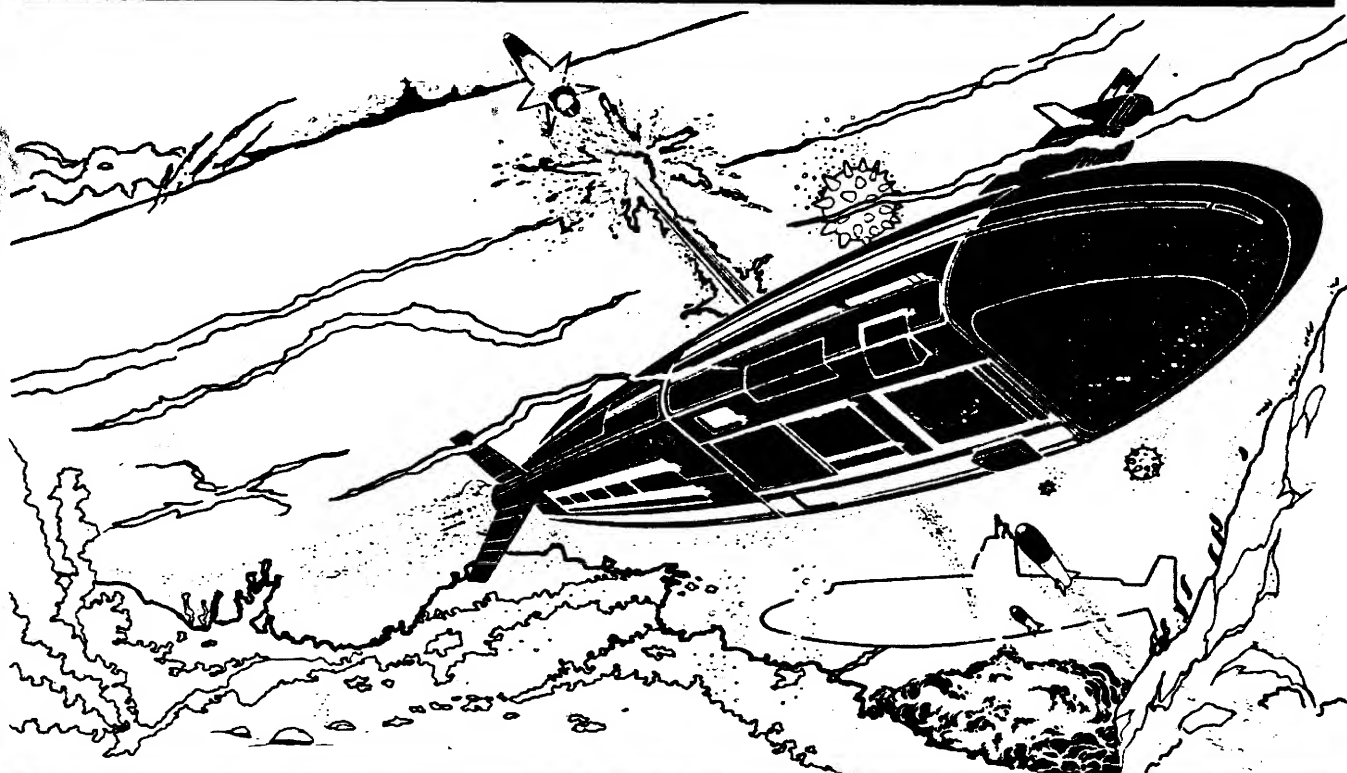


POLARIS™

COLOR







SERVICE INSTRUCTIONS AND PARTS CATALOG



TAITO CORPORATION

5. Play Instructions

- o Insert coin(s).
- o Select game 1 or 2 players.
- o Shoot jet planes  , frigates  , enemy subs  , and airplanes  for points, while avoiding enemy attack.
- o Scoring:



??? Pts.



??? Pts.



100 Pts.



50 Pts.



30 Pts.



10 Pts.

- o In a two player game, play alternates between the two after each missing.

Additional Information:

- o Homing missiles and mines cannot be destroyed.
- o When a anti-sub airplane is hit, some mystery points (500, 1000, 1500, or 2000 points) are scored.
- o When an enemy sub is hit, some mystery points (300, 500, 700, or 900 points) are scored.
- o When score exceeds 5,000 points, one sub is added with music.
- o As the frame progresses, the bonus points increse from 1,000 to 9,000 points.
- o Game is over when all of player8s subs have been destroyed.

6. Adjustments on Switching Regulator PC Board

(See Fig. 3)

Caution: The line voltages should be set within the limit.

Failure to do so may result in destruction of the IC's.

o To check the output voltage, measure them on the G-connector or the T-connector.

(See the cable block diagram, in this manual.)

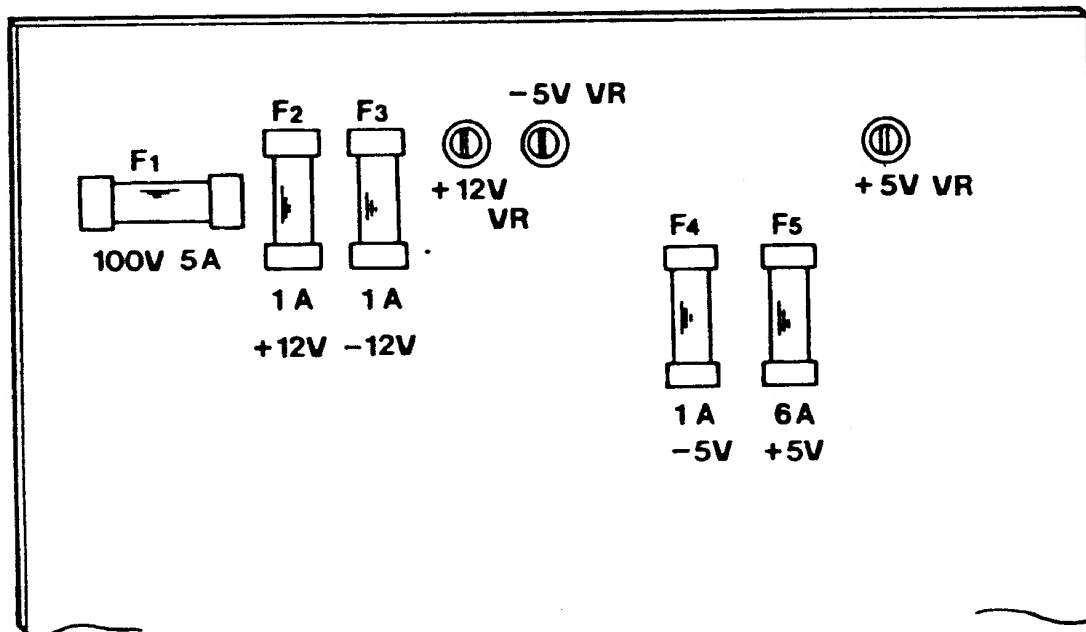


Fig. 3

- o +5V VR ... Pot for adjusting +5V DC line voltage
(Adjustable range: +4.5V to +5.5V DC)
Set approx. +5V.
- o -5V VR ... Pot for adjusting -5V DC line voltage
(Adjustable range: -5.5V to -4.5V DC.)
Set approx. -5V.
When the +5V line has no load, this -5V voltage is not present on the line.
- o +12V VR .. Pot for adjusting +12V DC line voltage
(Adjustable range: +10.3V to +13.2V DC)
Set approx. +12V.

7. Adjustments on Game PCB (See Fig. 4 and Table 1 - 3)

- o To decrease the sounds turn each pot as shown by the arrowhead.

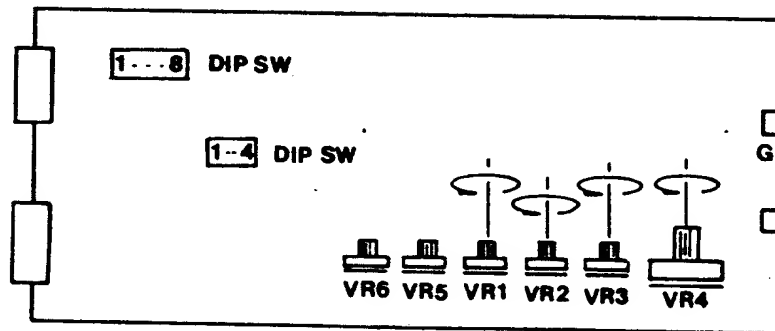


Fig. 4

- * VR1 ... Pot for adjusting the effective sounds; firing sounds, anti-sub airplane nose diving sounds, bomb hit sounds, jet plane hit sounds, and frigate hit sounds.
- * VR2 ... Pot for adjusting frigate appearing sounds and enemy sub hit sounds.
- * VR3 ... Pot for adjusting the music produced when bonus points are scored or an extended play is awarded.
- * VR4 ... Pot for adjusting the total sounds.
- * VR5, VR6 ... These pots are for adjusting the solid-state modules, which are for factory adjustments.

Setting of DIP Switches:

DIP SW1

- * SW1, SW2 ... Switches for changing the number of player's subs (POLARIS)

Polaris	3	4	5	6
SW 1	ON	OFF	ON	OFF
SW 2	ON	ON	OFF	OFF

Table 1

This number is preset at "3" at the factory.

- o SW3 ... Switch for Game Style

SW 3	ON	Upright Version
	OFF	T T Version

Table 2

As this game is an upright version, this switch should be set at "ON" position.

- o SW4 ... Switch for checking game features

When this switch is set at "OFF" position, no hits are made if bombs hit player's sub.

Normally, this switch should be set at "ON" position.

- o SW5 ... Switch for demonstration sounds

Effective sounds for appealing to the customers can be produced. (Polaris sounds)

SW 5	ON	No sounds are produced.
	OFF	Sounds are produced.

Table 3

- o SW6,SW7 ... These switches are not used in this game, and should be set at "OFF" positions.

- o SW8 ... Switch for Preset Mode

When this switch is set at "OFF" position, the check can be mode. When checking, each switch should be set first. Normally this switch should be set at "ON" position.

1 PLAYER START SW ... 1P's points are increased by 50 points.

2 PLAYER START SW ... 2P'S points are increased by 50 points.

1 PLAYER UP SW The levele becomes high.

1 PLAYER FIRE SW The game starts.

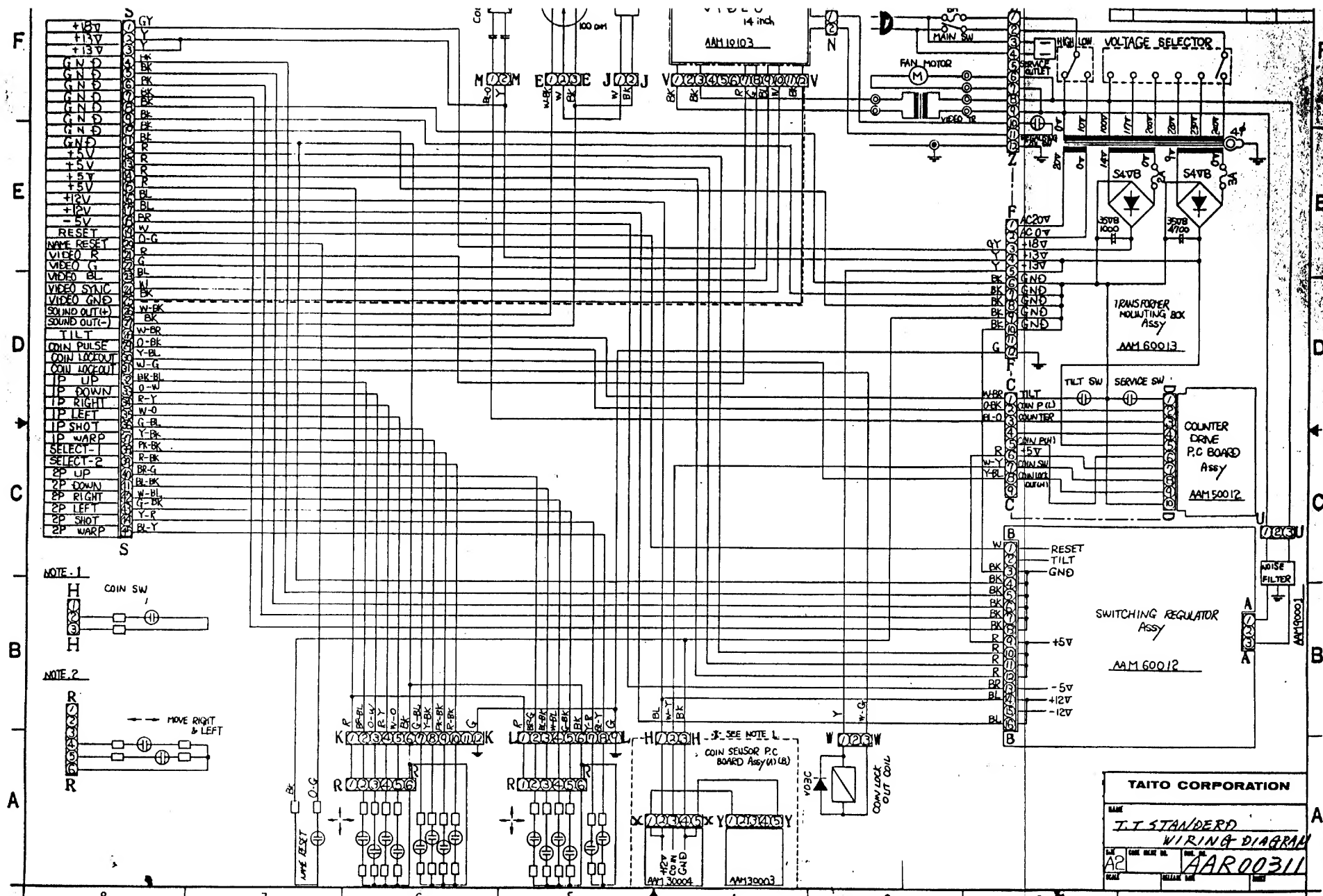
DIP SW2

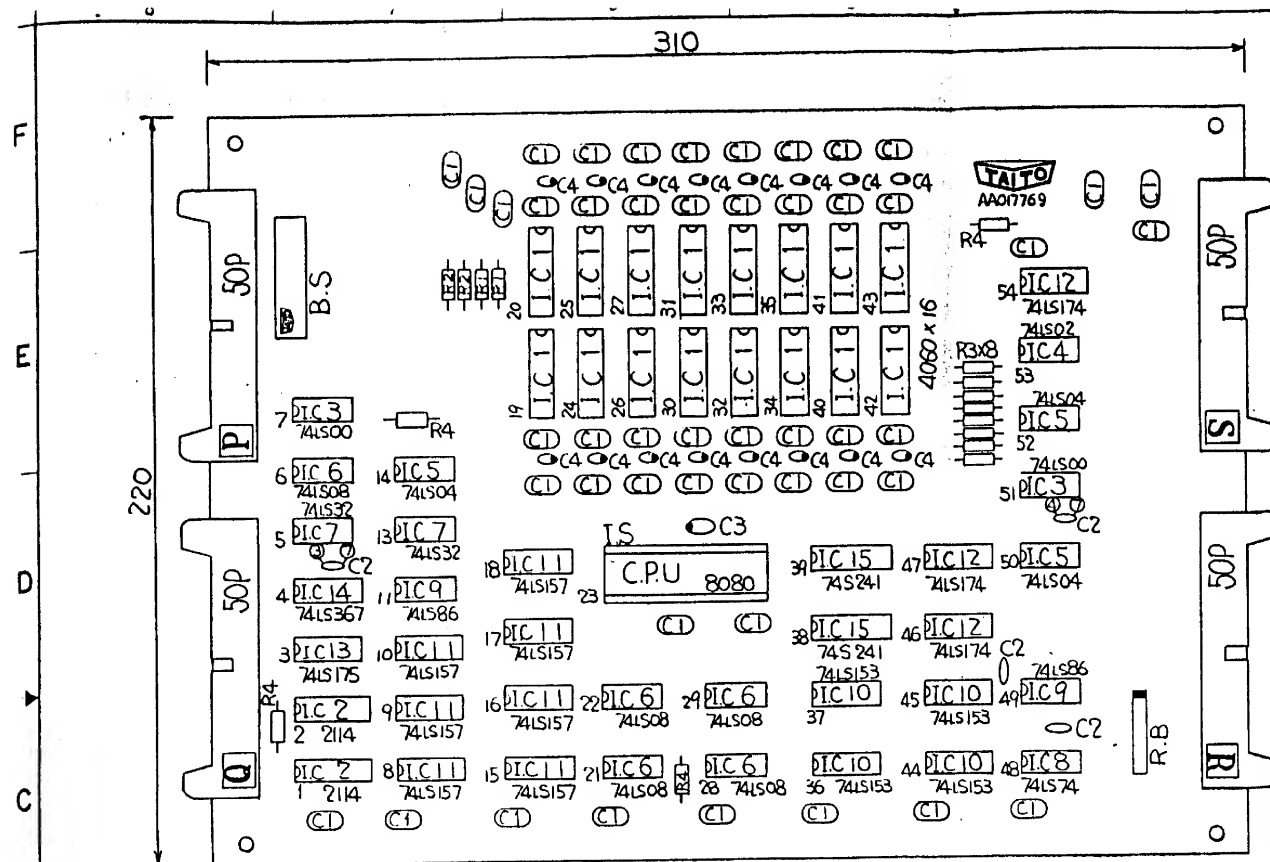
- o SW1-SW3 ... These switches are not used and ahold be set "OFF" positions.

- o SW4 ... Switch for Screen Inversion

"ON" ... Inversion "OFF" ... No Inversion

Normally, this switch should be set at "OFF" position.





The diagram shows three types of vacuum tube cathodes. The first is labeled 'CATHODE MARK' and shows a small dot on a larger oval. The second is labeled 'CAP, TANTALUM' and shows a small oval. The third is labeled 'CAP, CERAMIC' and shows a small oval. A label 'CAP, FILM' is also present, pointing to the second type.

NOTE - 1. CAP.

A diagram showing a rectangular box with a small black square at the top-left corner. An arrow points from the text "COMMON MARK" to this black square.

NOTE-2. RESISTOR BLOCK

REVISIONS			
LTG	DESCRIPTION	DATE	APPROV

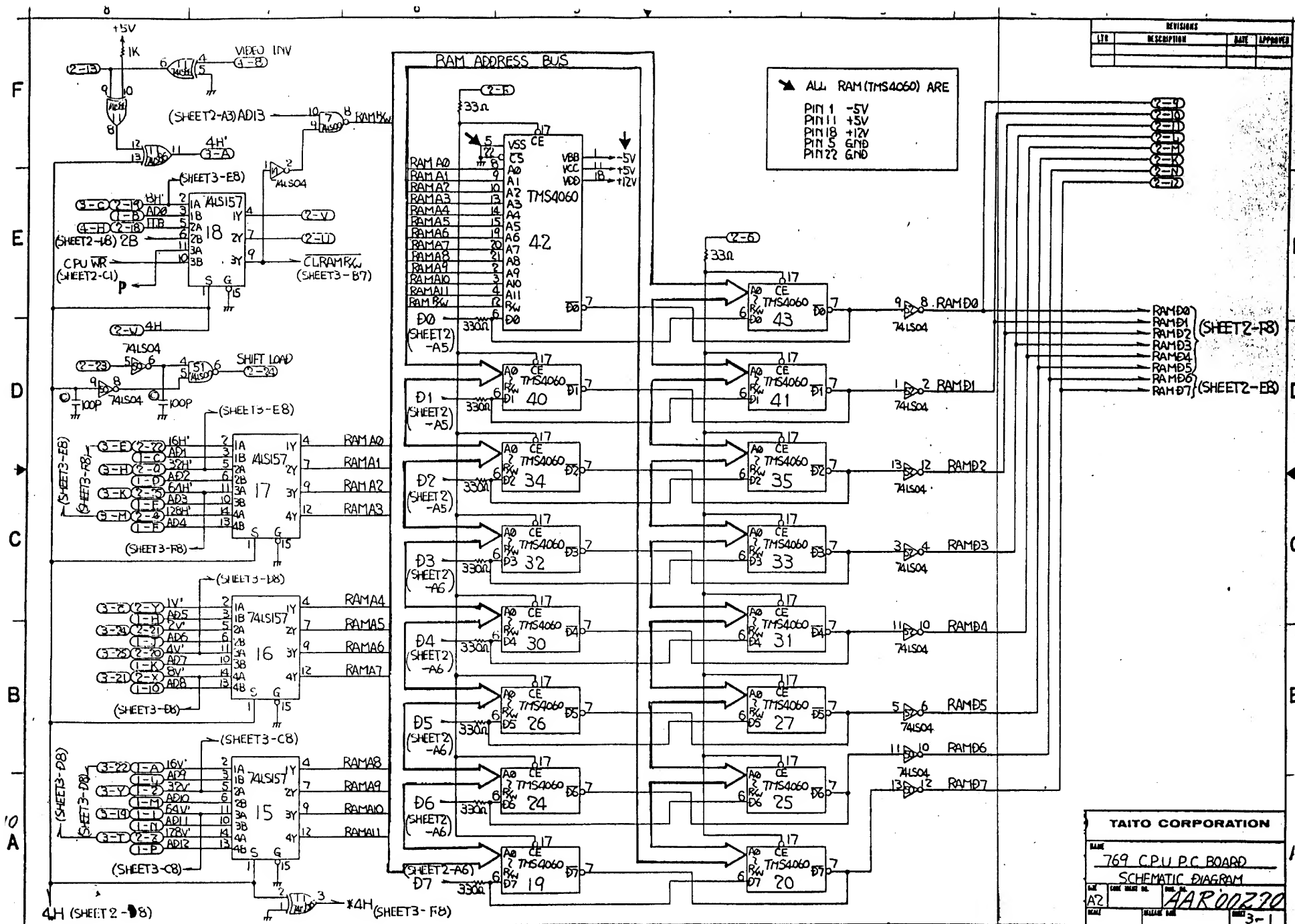
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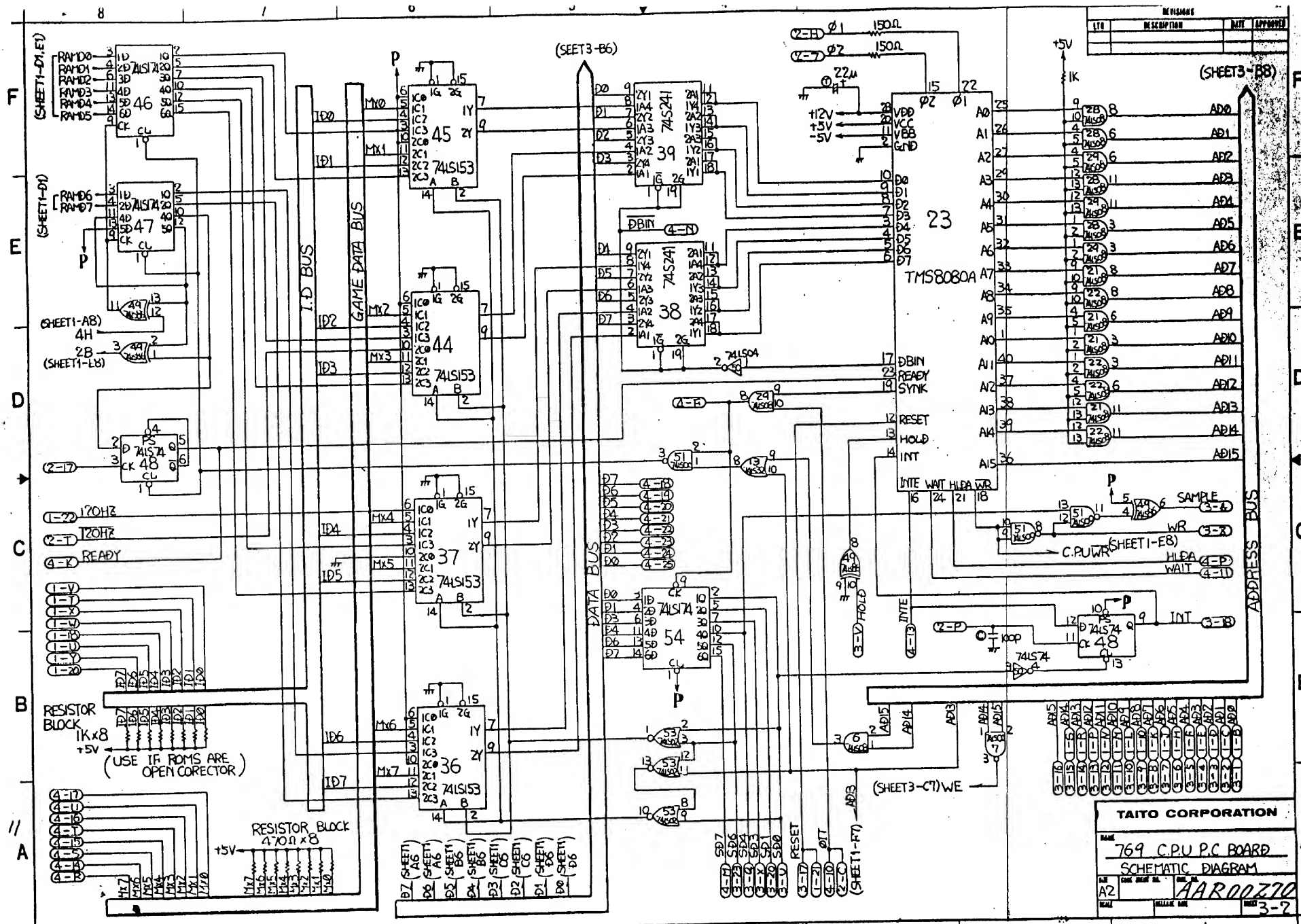
PARTS LIST

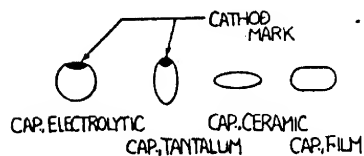
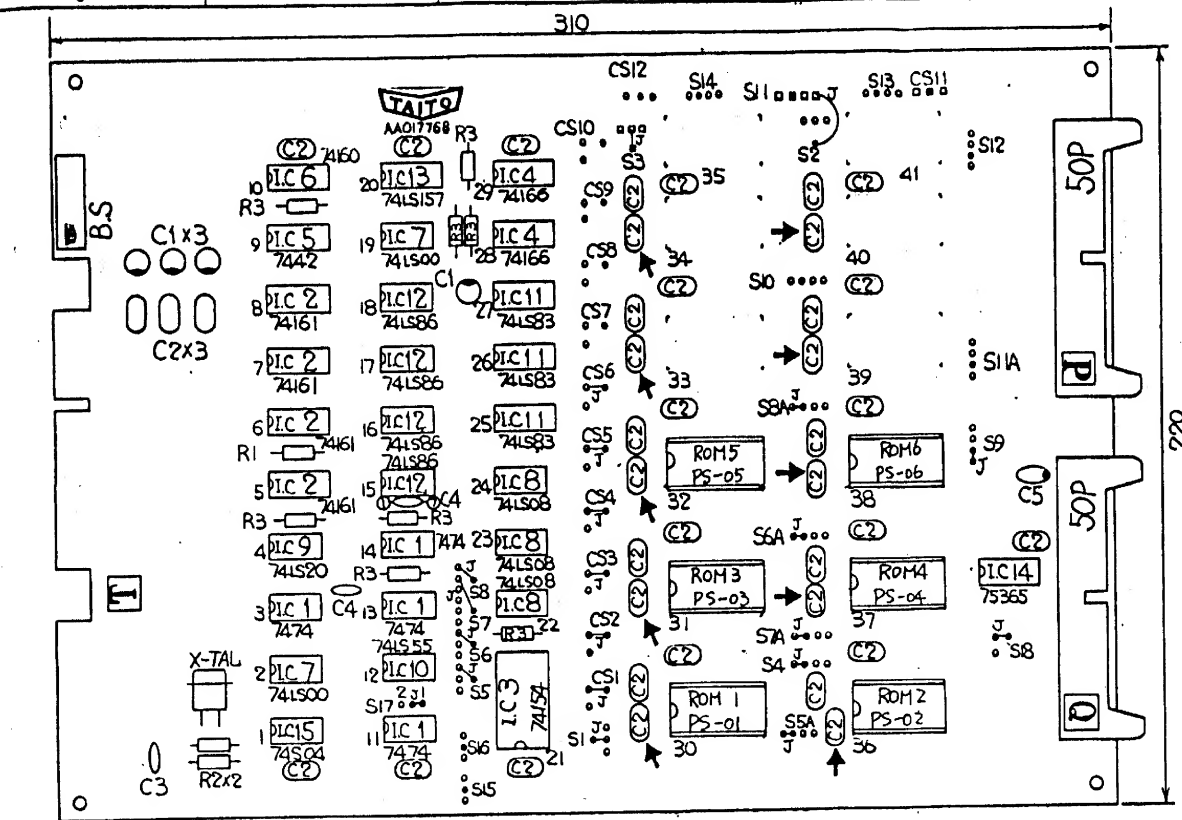
TAITO CORPORATION

NAME T.T. SPACE CHASER
769-C.P.U. P.C. BOARD ASSY

FILE NO.	FILE NO.	FILE NO.
AZ		RTN00005
SCALE	1/2	SCALE







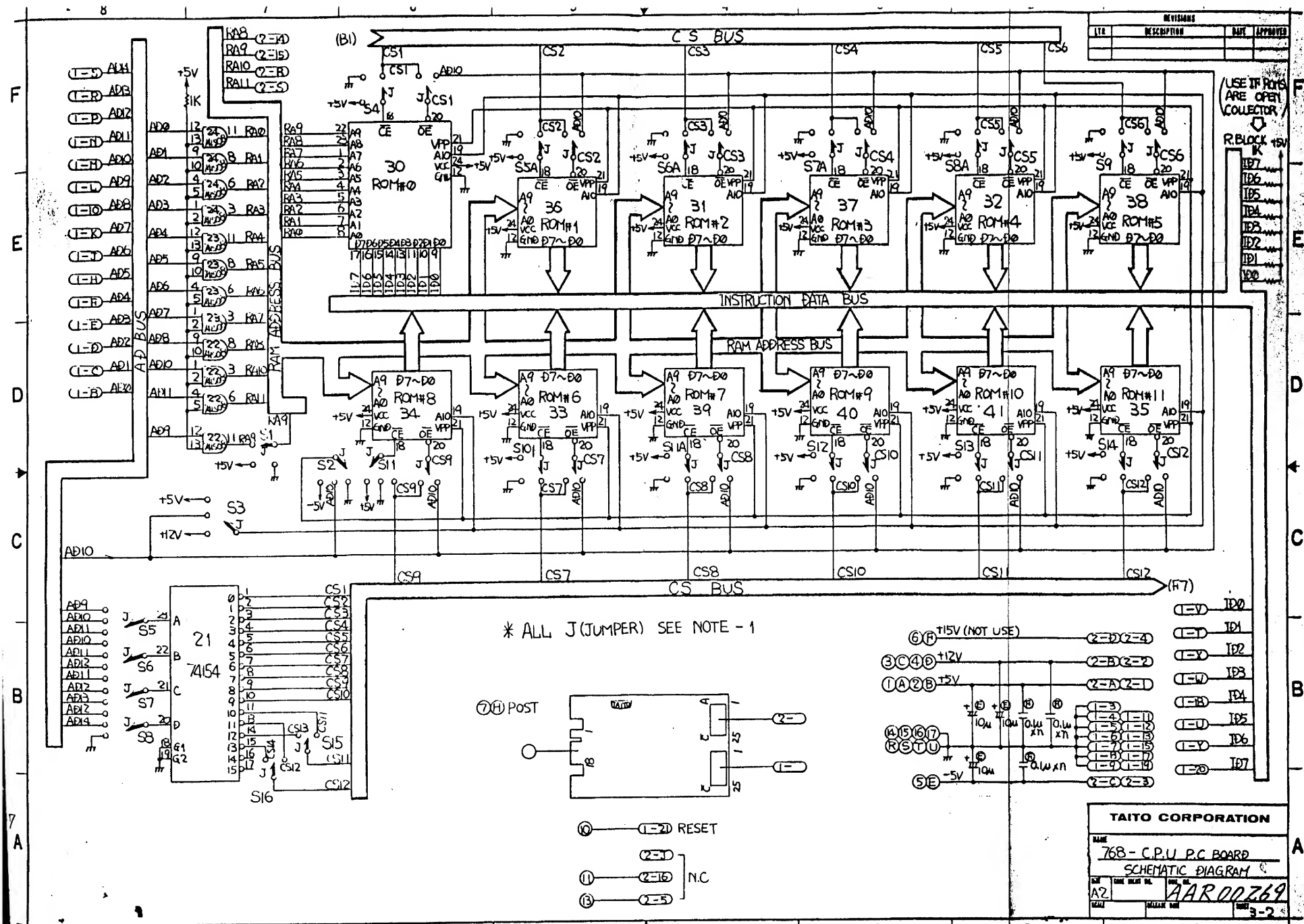
NOTE-1. CAP.

NOTE-2. NOT USE THIS MARKED (M) CAPACITOR FOR 2716 & 2316B

REVISIONS					
REV	DESCRIPTION	DATE	APPROVED		
47					
46					
45					
44					
43					
42					
41					
40					
39					
38	ROM6	PSO 90006	P-ROH	PS-06 (2716)	1
37	ROM5	90005		PS-05	1
36	ROM4	90004		PS-04	1
35	ROM3	90003		PS-03	1
34	ROM2	90002		PS-02	1
33	ROM1	PSO 90001	P-ROH	PS-01 (2716)	1
32	R3	AAT 51765	RES. CARBON	1KOH 1/4W 5%	8
31	R2	51753		330	2
30	R1	51733	RES. CARBON	470OH 1/4W 5%	1
29	C5	41436	CAP. TANTALUM	SSG 35-1F	1
28	C4	41334	CAP. CERAMIC	470PF	2
27	C3	41324	CAP. CERAMIC	180PF	1
26	C2	41244	CAP. FILM	TPY-1H-104	30
25	C1	41037	CAP. ELECTROLYTIC	25VB-10uH	4
24	IC15	38003	S	I.C. 74S04	1
23	IC14	35007	MOS DRIVER	75365	1
22	IC13	33112	L.S.	I.C. 74LS157	1
21	IC12	33067		74LS86	4
20	IC11	33059		74LS83	3
19	IC10	33043		74LS55	1
18	IC9	33019		74LS20	1
17	IC8	33009		74LS08	3
16	IC7	33001	L.S.	I.C. 74LS00	2
15	IC6	32086	TTL	I.C. 74160	1
14	IC5	32039		7447	1
13	IC4	32028		74166	2
12	IC3	32027		74154	1
11	IC2	32018		74161	4
10	IC1	AAT 32011	TTL	I.C. 7474	4
9	X-TAL	AAO 69539	X-TAL	19.968MHZ	1
8	J	62639	TINNED COPPER WIRE	0.5φ	250
7	IS1	55787	I.C. SOCKET	24P	6
6	SOP	55134	ANGLE PIN HEADER	PS-50PA	2
5	T	17665	CONNECTOR STICKER	T	1
4	Q	17656		Q	1
3	P	AAO 17653	CONNECTOR STICKER	P	1
2	B.S	PSO 70004	P.C. BOARD STICKER		1
1		AAO 17768	C.P.U-P.C BOARD(A)		1

PARTS LIST

TAITO CORPORATION			
NAME	T.T. POLARIS		
NAME	P.S.-CPU PC BOARD ASSY		
REV	DATE	REV	DATE
A2		PSN/00002	
DATE	REV	DATE	REV



REVISIONS			
LTN	DESCRIPTION	DATE	APPROV

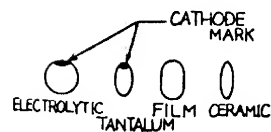
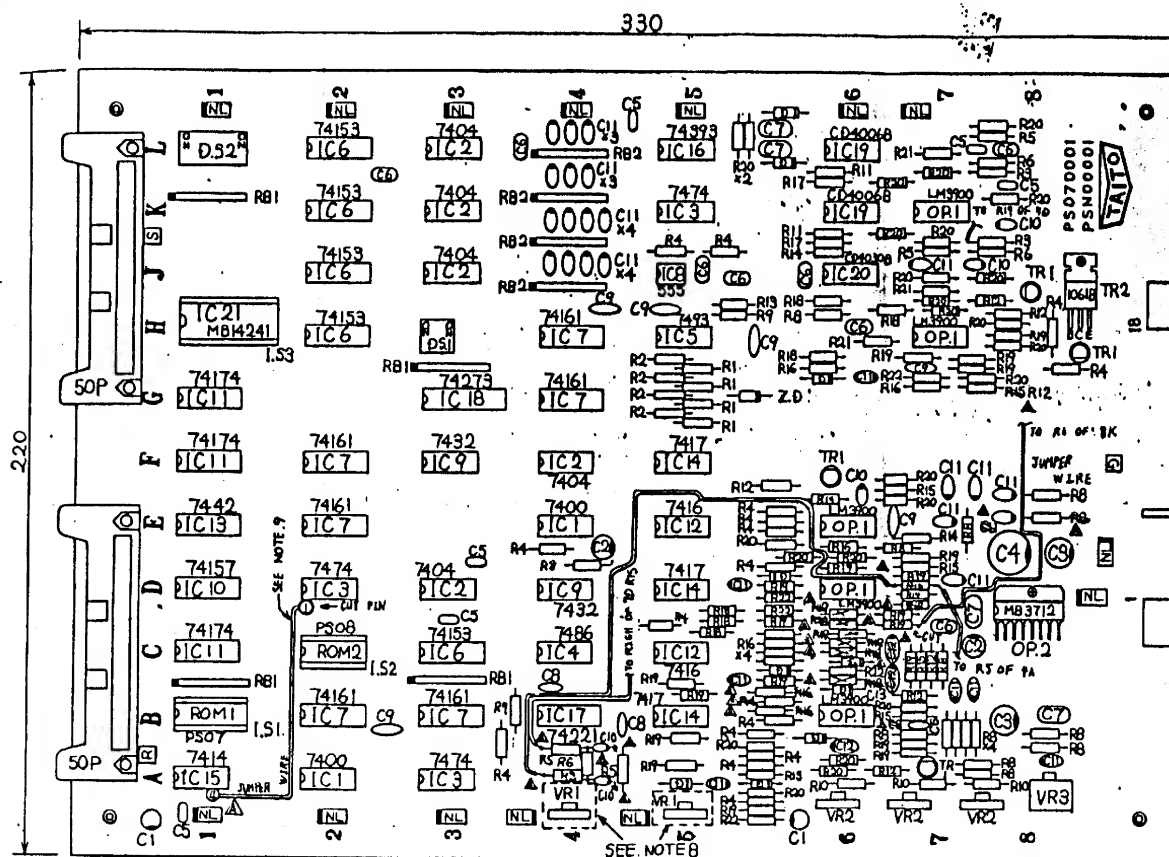
[illegible]

NOTE - JUMPE WIREING

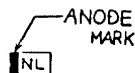
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NOTE - 2 P-ROM

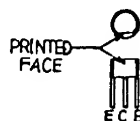
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NAME _____			
768-CPU P.C BOARD			
SCHEMATIC DIAGRAM			
FILE NO.	COMP. NAME NO.	DATE	
A2			AAR00269
SCALE	WIRELESS	DATE	NO. 3-3



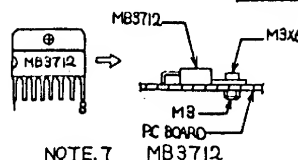
NOTE: CAP



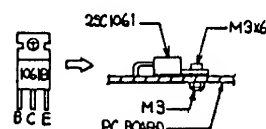
NOTE.3 NOISE LIMIT



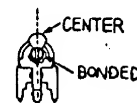
NOTE.5 TRANSISTOR



NOTE.7 MB3712



NOTE 6 TRANSISTOR (2SC1061)



NOTE 8 VARIABLE RE3.

86			
85			
84			
83	AA7 41433	CAP. TANTLUM, 55635-0R33F	
82		JUMPER WIRE Y 10	400
81	SHT	SIGNATURE OF DESCRIPTION	

WIRING	
ADDRESS	ADDRESS
4A (R2)	7D (LEFT OF R15)
4A (R5)	7D (RIGHT OF R15)
8K (R3)	7D (R19)
1A (PIN)	20 (1 PIN)

CUT THE 1st PIN OF IC 20

NOTE. 9 JUMPER WIRE

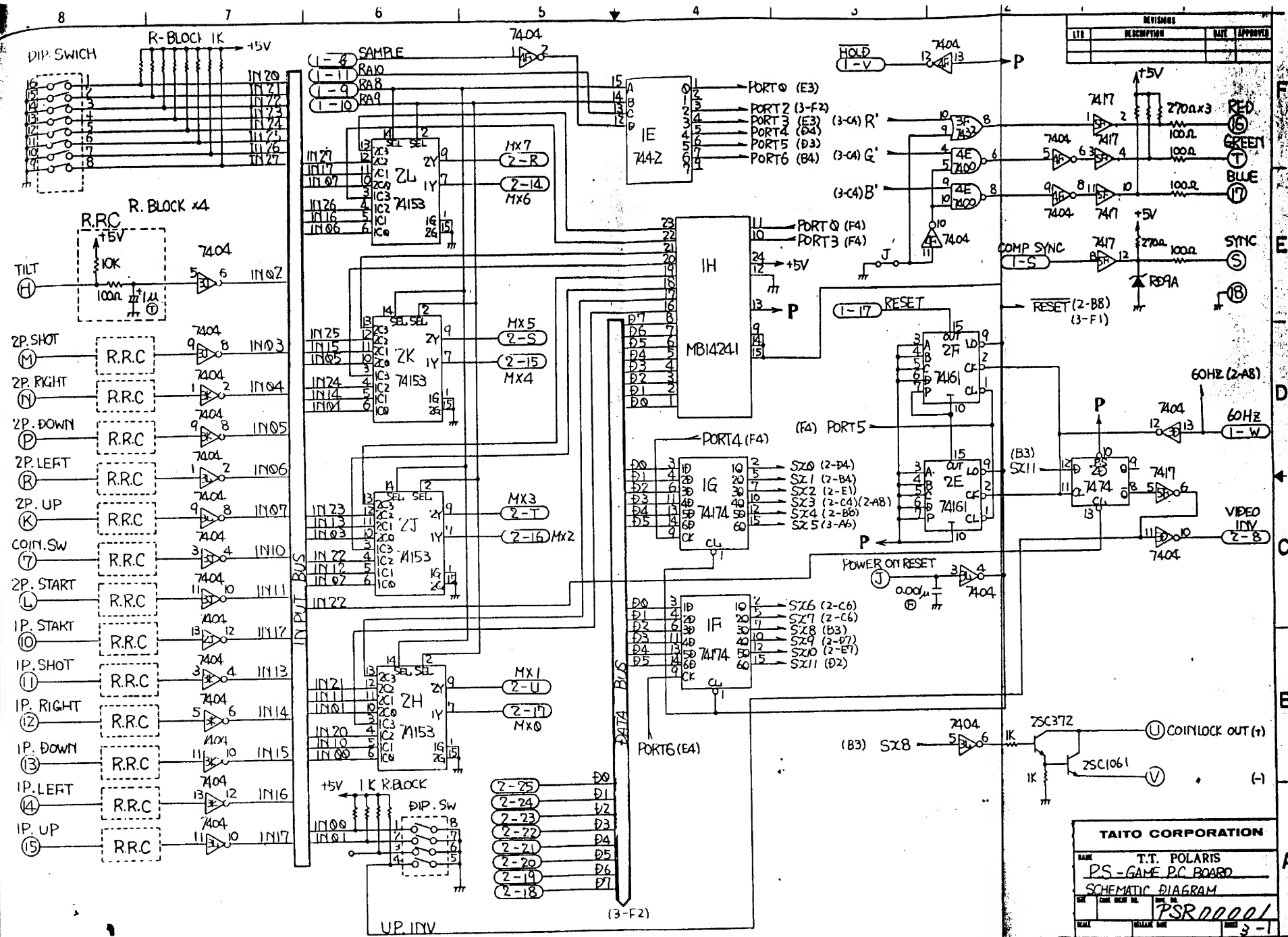
81	AA05	57	LOCKING PLUG	LOCK PLUG	1	2
80	AA16	20	NOISE LIMIT	NOISE LIMIT	1	2
79	AA05	57	RESISTOR BLOCK	RESISTOR BLOCK	1	2
78	AA05	57	VARIABLE RESISTOR	VARIABLE RESISTOR	1	2
77	AA05	57	VARIABLE RESISTOR	VARIABLE RESISTOR	1	2
76	AA05	57	VARIABLE RESISTOR	VARIABLE RESISTOR	1	2
75	AA05	57	VARIABLE RESISTOR	VARIABLE RESISTOR	1	2
74	AA05	57	VARIABLE RESISTOR	VARIABLE RESISTOR	1	2
73	AA05	57	VARIABLE RESISTOR	VARIABLE RESISTOR	1	2
72	AA05	57	VARIABLE RESISTOR	VARIABLE RESISTOR	1	2
71	AA05	57	VARIABLE RESISTOR	VARIABLE RESISTOR	1	2
70	AA05	57	VARIABLE RESISTOR	VARIABLE RESISTOR	1	2
69	AA05	57	VARIABLE RESISTOR	VARIABLE RESISTOR	1	2
68	AA05	57	VARIABLE RESISTOR	VARIABLE RESISTOR	1	2
67	AA05	57	VARIABLE RESISTOR	VARIABLE RESISTOR	1	2
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8	AA05	57	VARIABLE RESISTOR	VARIABLE RESISTOR	1	2
7	AA05	57	VARIABLE RESISTOR	VARIABLE RESISTOR	1	2
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3	AA05	57	VARIABLE RESISTOR	VARIABLE RESISTOR	1	2
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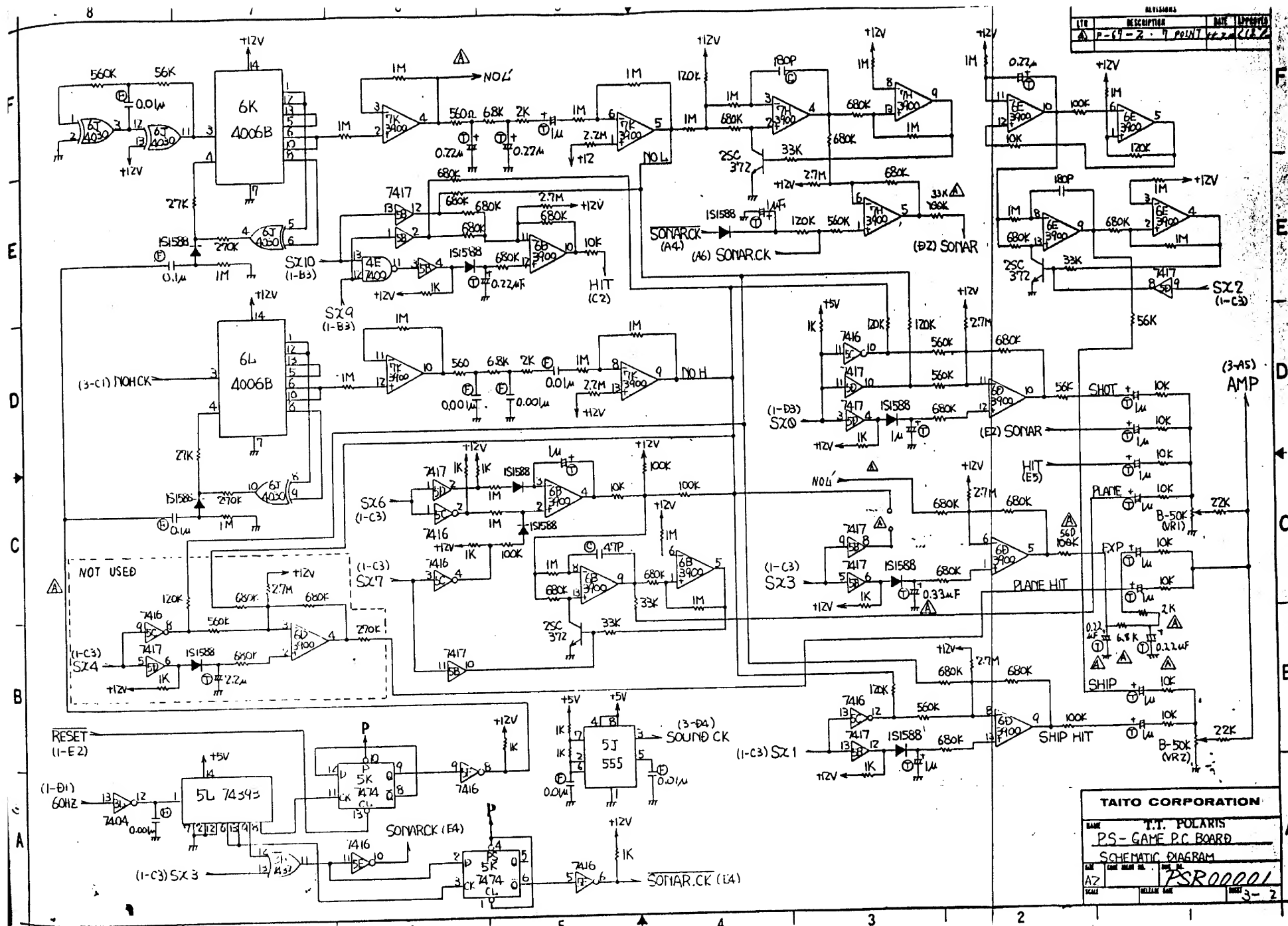
TAITO CORPORATION

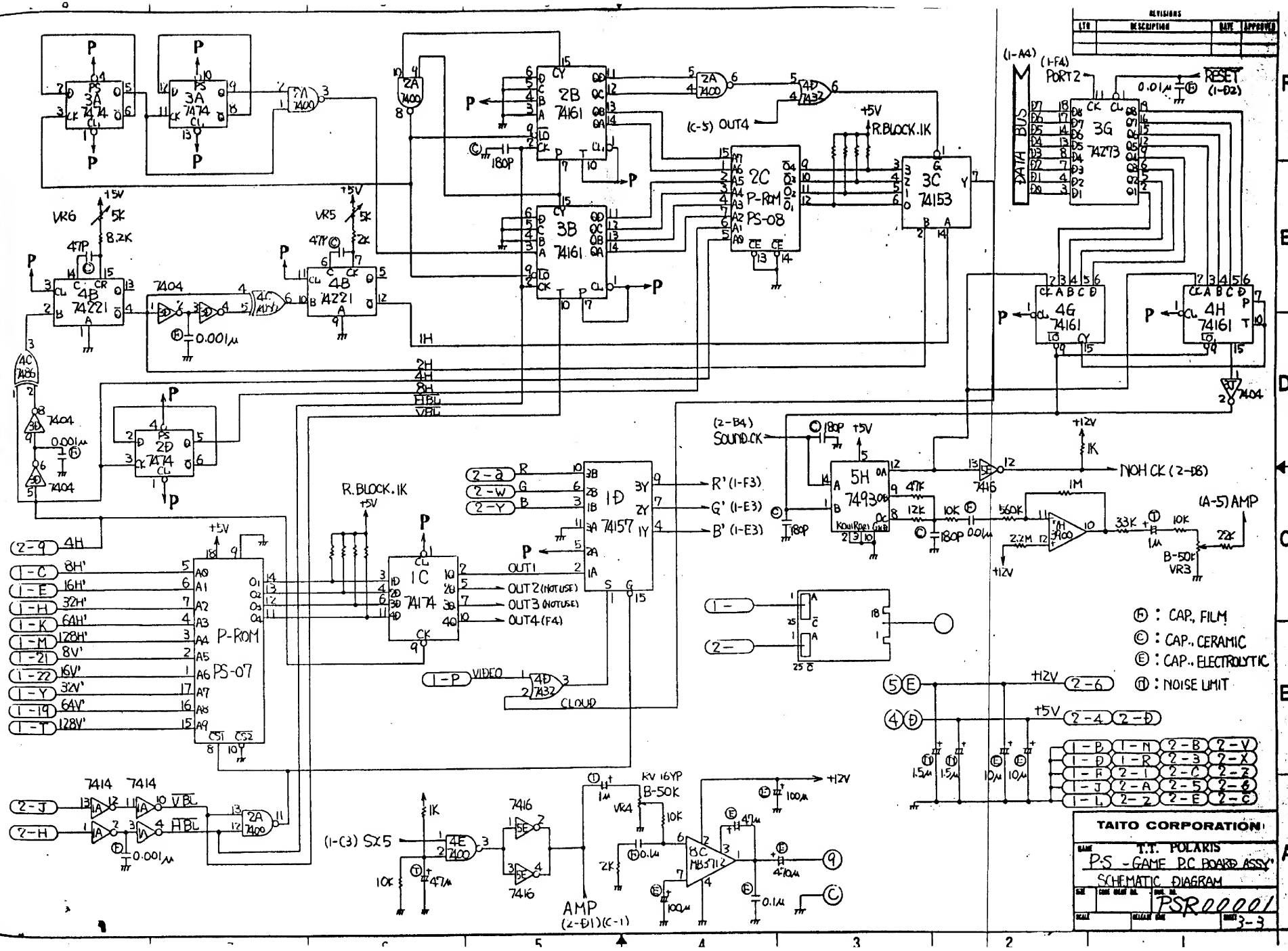
Y.Y. POLARIS
PS-CAME PS 80100 1500

12-17-68

PSN00001

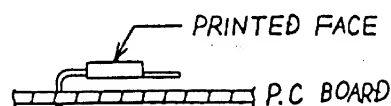
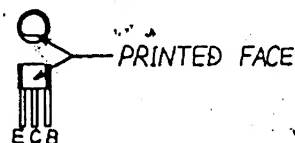
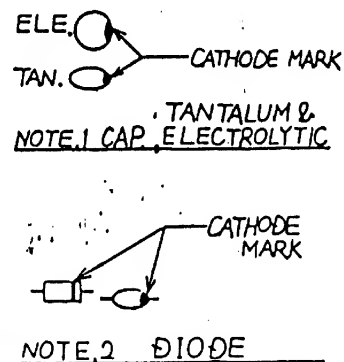






REVISIONS			
LT#	DESCRIPTION	DATE	APPROVED

TAITO CORPORATION			
NAME: T.T. POLARIS			
PS - GAME PC BOARD ASSY			
SCHEMATIC DIAGRAM			
REV	DATE	BY	CHK
PSR00001			
3-3			



NOTE.3 TRANSISTOR(2SC458)

NOTE.4 TRANSISTOR(2SC1061)

NOTE.5 THE RELATION BETWEEN COIN AND CREDIT

[illegible]

REVISIONS			
LYR	DESCRIPTION	DATE	APPROVED

31	R8	AAT 55033	WINDING RESISTOR, 60HM 2W±10%	
30	R7	51831	RES. CARBON, 560KOHM 1/4W±5%	2
29	R6	51803	↑ 39K ↑	2
28	R5	51789	10K	13
27	R4	51781	4.7K	1
26	R3	51777	3.3K	1
25	R2	51765	↓ 1K ↓	6
24	R1	51741	RES. CARBON, 100OHM 1/4W±5%	4
23	C8	41438	CAP. TANTALUM, SSG35-3R3F	1
22	C7	41421	SSG16-4R7F	2
21	C6	41419	SSG16-2R2F	2
20	C5	41418	SSG16-1F	2
19	C4	41414	CAP. TANTALUM, SSG16-0R22F	1
18	C3	41244	CAP. FILM TDY-1H-104	5
17	C2	41238	CAP. FILM TDY-1H-103	5
16	C1	41021	CAP. ELECTROLYTIC, 16VB47M	1
15	IC7	32077	TTL IC 74221	1
14	IC6	32044	↑ 74193	1
13	IC5	32039	7442	1
12	IC4	32033	7416	1
11	IC3	32019	NE555V	1
10	IC2	32003	↓ 7404	1
9	IC1	32001	TTL IC 7400	2
8	D2	12025	DIODE 1S1588	1
7	D1	12002	DIODE VO3C	2
6	TR2	V 11030	TRANSISTOR 2SC1061-B	2
5	TR1	AAT 11005	TRANSISTOR 2SC458-C	1
4	SW2	AAO 52566	DIP SWITCH DSS-8	1
3	SW1	52560	DIP SWITCH DSS-7	1
2	D	17623	CONNECTOR STICKER D	1
1		AAO 17766D	CREDIT P.C BOARD	1
ITEM	SYM	PART OR NO	NOMENCLATURE OR DESCRIPTION	QTY

PARTS LIST

TAITO CORPORATION

111

CREDIT P.C BOARD ASSY.

50
A.3

Doc 1641-20

ENC. 20

AAM50011-E

100	100
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 $\frac{1}{2}$

DATE	FILE
------	------

10

